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Federal Communications Commission  
Washington D. C.

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

In the Matter of:

Advanced Television Systems and )  
Their Impact Upon the Existing )MM Docket No. 87-268  
Television Broadcast Service. )

To: The Commission

**REPLY COMMENTS ON THE SIXTH FURTHER NOTICE OF PROPOSED RULE MAKING**

These Reply Comments relative to the Sixth Further Notice of Proposed Rule Making (FCC96-317) were prepared on behalf of Scripps Howard Broadcasting Company (SHBC) by Warren Happel, Vice President Engineering. SHBC is the licensee of six VHF and three UHF television stations. SHBC submitted comments relative to the Sixth FNPRM and was a signatory on the Joint BROADCASTERS' COMMENTS. SHBC is not in agreement with the FCC Sixth FNPRM or the BROADCASTERS' COMMENTS relative to the DTV powers listed in the respective FCC and BROADCASTERS' assignment Tables.

It is in the Public Interest to continue, uninterrupted, free over-the-air television service. Congress, the FCC, and the Broadcast Industry share the common goal of supporting new and future DTV service. Many comments have been filed in these proceedings which address the potential of interference to the reception of existing NTSC Stations, TV Translators, and Low Powered Television as well as the future reception of DTV. To that end, SHBC offers these Reply Comments in the interest of expediting the channel assignment process.

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## **DIGITAL TV SERVICE AREAS**

In the SHBC Comments, Phoenix AZ was used as a market example to show that the FCC draft DTV Table listed UHF effective radiated powers (ERPs) which were disparate between DTV UHF channels themselves and additionally, when compared to the existing range of NTSC licensed powers. There were similar comments filed by other broadcasters for other markets. This serious ERP disparity was not addressed by the draft Table submitted with the BROADCASTERS' COMMENTS. Actually, for Phoenix, the UHF power disparity for DTV in the BROADCASTERS' Table is worse than in the FCC Table. SHBC believes, such an UHF power disparity within a given market is not acceptable, and will create problems for NTSC and DTV reception. Large power disparities between received signals will cause undesired receiver intermodulation products, and can saturate television receivers and pre-amplifiers, rendering them ineffective. Since there are no FCC standards for DTV receivers, caution would dictate reasonable DTV ERPs and power ratios between UHF signals, especially during the first few years of the transition to DTV. During the transition period into the DTV era, there will be few viewers while DTV receivers and programming become available.

SHBC supports the several comments which recommend initial UHF DTV power be no greater than 500 kW. For this reason, and others, SHBC supports the Comments submitted by the Association of Federal Communications Consulting Engineers (AFCCE). The common sense approach of limiting the ERP during the transition from NTSC to DTV, allows the industry to gather on-air engineering information from

multiple channels. This will permit us to determine if ERPs above 500 kW for DTV are actually necessary. Initially limiting the ERP of DTV channels will reduce the potential of interference to NTSC service, which will continue to provide viewers with programming and Emergency Alert System notification into the transition period. By initially limiting ERPs, the process of DTV channel assignment can be expedited. During the transition, those receiving locations beyond the radio horizon could access DTV UHF stations with the use of a pre-amp if an outside antenna alone, was not adequate.

The AFCCE Comments acknowledge the years of work by many dedicated people in government and the industry, and encourage the DTV building process to continue on the foundation already in-place.

### **EXAMPLE OF POWER RATIOS IN THE PHOENIX MARKET**

1. The present ratio of NTSC power between UHF operating stations in Phoenix is 3 to 1.
2. The FCC DTV power ratio between DTV UHF stations in Phoenix would be 78 to 1.
3. The power ratio is even higher in the BROADCASTERS' DTV Table. (MSTV DTV heading in the following table.) The power ratio would be 89 to 1 between UHF stations in the Phoenix market.

### **BACKGROUND INFORMATION FOR THE ABOVE RATIOS FOR PHOENIX AZ**

| Call<br>Sign | NTSC<br>CHANNEL | NTSC<br>ERP kW | HAAT<br>METERS | FCC DTV<br>CHANNEL | FCC DTV<br>ERP kW | MSTV DTV<br>CHANNEL | MSTV DTV<br>ERP kW |
|--------------|-----------------|----------------|----------------|--------------------|-------------------|---------------------|--------------------|
| KNXV-TV      | 15              | 1,070          | 521            | 23                 | 50.0              | 25                  | 15.4               |
| KTUP-TV      | 45              | 2,750          | 545            | 44                 | 186.8             | 44                  | 88.7               |
| KTVK         | 3               | 100            | 542            | 29                 | 3,913.7           | 23                  | 1,367.9            |

Note: KNXV-TV filed an application prior to 7/25/96 for 4,000 kW.

High UHF power ratios within the Grade A service area for full service stations does not make sense, and in the case of Phoenix, reduces KNXV-TV to the status of a Low Power Television facility. In general, viewers within the radio horizon would require an outside antenna to receive the KNXV-TV DTV channel, while an indoor antenna could likely suffice (within the limits of multipath) for the KTVK DTV channel, as well as for other high power DTV channels in the Phoenix market. Consider also, intermodulation does occur (with or without an outside antenna) in NTSC receivers and will likely occur in DTV receivers when high signal strengths are received at the receiving tuner-input. The difference in received levels because of propagation and multipath, in addition to the original difference in transmitted powers, would exacerbate the problem. Under the presently published power assignment levels, KNXV-TV would not be able to adequately serve a DTV audience. Thus, SHBC requests that at least 300 kW ERP be permitted for the KNXV-TV DTV channel.

Specifically, KNXV-TV has not been assigned enough power in the FCC or the MSTV table to be an effective DTV broadcasting operation in Phoenix. We know there are similar conditions in some other markets since we have reviewed Comments filed by other broadcasters. SHBC urges the FCC to respond to these Comments and address the power disparities by market. As an example, The Comments of The Association of America's Public Television Stations and The Public Broadcasting Service state, page 6:

"Public Television strongly supports the incorporated minimum power values in the table of digital allotments." (Ref: Sixth Notice)

Several comments suggest that the licensee of an under-powered DTV channel would have the option of increasing power after a Table was established, if no additional interference is caused. Considering that the addition of DTV channels in the FCC and the BROADCASTERS'(MSTV) Tables cause interference, would an under-powered DTV channel be permitted to add interference with a power increase similar to interference caused and accepted by the previously assigned channels? Or, would the lower powered channels be "frozen at low power" because any power increase would be predicted to increase interference?

It may be premature to comment on channel assignment Tables since there are two proposed assignment Tables before us and it is our understanding that neither Table has concurrence with Mexico and Canada. However, since there will likely not be another opportunity to comment until the we see the "final Table", SHBC introduces the following reply comments relative to the nine SHBC licensed channels as the assignments and ERPs relate to the two Tables. SHBC also replies to the Motorola Comments and the Comments of The National Radio Astronomy Observatory.

**Motorola has proposed the following in their Comments:**

*Channel 16, in-place-of the FCC DTV channel 23, for KNXV-TV (NTSC channel 15) in Phoenix AZ.*

*Channel 29, in-place-of the FCC DTV channel 57, or BROADCASTERS' Table, channel 25, for WFTS-TV Tampa FL (NTSC channel 28).*

SHBC does not see any purpose in the assignment of an adjacent channel to be used with an existing NTSC channel unless there is no other channel available.

*Channel 48, in-place-of the FCC and BROADCASTERS' Table, DTV*

*channel 19, for WPTV channel 5, in West Palm Beach FL.*

Channel 48 is co-channel with the BROADCASTERS Table channel 48 listed for Orlando FL. Channel 19 is obviously the better choice for use in the West Palm Beach area.

*Channel 13, in-place-of the FCC and BROADCASTERS' Table, DTV channel 10, for WCPO channel 9, in Cincinnati OH.*

Channel 10 is listed by Motorola for use by WKRC-TV channel 12 in Cincinnati which is not co-located with channel 9. SHBC sees no good reason for this change as this affects WKRC-TV and WCPO-TV to no advantage.

**Regarding The National Radio Astronomy Observatory (NRAO) Comments:**

The BROADCASTERS' Table proposes channel 25 as the DTV channel to be used for KNXV-TV in Phoenix. The NRAO identifies channel 25 as a channel near the line-of-site of Very Large Array (VLA) or Very Long Baseline Array (VLBA) receiving antennas. The NRAO Comments request:

*"...the Commission should condition the licensee to take any and all necessary measures to eliminate potential interference and that upon notice from NRAO to the licensee that the station is actually causing harmful interference, require the station to add sufficient filtering and shielding to the transmitter and the building housing the transmitter and take any other steps, including signal attenuation, in order to reduce harmonic emissions below the harmful level for NRAO radio telescopes."*

Under these circumstances, SHBC does not desire DTV channel 25 for use in Phoenix and perhaps under the circumstances channel 25 should not be assigned to Phoenix.

While SHBC believes any broadcaster could cooperate with the NRAO at NRAO's

expense, the FCC Rules define out-of-band emissions and the FCC standard applicable Rules should be the only requirement.

### **SPECIFIC RESPONSE TO CHANNEL ASSIGNMENTS**

#### **TAMPA FL:**

| Call<br>Sign | NTSC<br>CHANNEL | NTSC<br>ERP kW | HAAT<br>METERS | FCC DTV<br>CHANNEL | FCC DTV<br>ERP kW | MSTV DTV<br>CHANNEL | MSTV DTV<br>ERP kW |
|--------------|-----------------|----------------|----------------|--------------------|-------------------|---------------------|--------------------|
| WFTS-TV      | 28              | 2,360          | 471            | 57                 | 175.2             | 25                  | 89.6               |

Note: WFTS-TV has a request for an increase in power to 4,000 kW, which was filed before July 25, 1996.

SHBC would prefer channel 25 for WFTS since it is close to the existing NTSC channel 28. Transmission equipment on channel 25 could likely be used for channel 28, should that be the final DTV channel for WFTS. SHBC requests 300 kW initial DTV ERP for use on any UHF DTV channel assigned to WFTS-TV.

#### **BALTIMORE MD:**

| Call<br>Sign | NTSC<br>CHANNEL | NTSC<br>ERP kW | HAAT<br>METERS | FCC DTV<br>CHANNEL | FCC DTV<br>ERP kW | MSTV DTV<br>CHANNEL | MSTV DTV<br>ERP kW |
|--------------|-----------------|----------------|----------------|--------------------|-------------------|---------------------|--------------------|
| WMAR-TV      | 2               | 100            | 305            | 38                 | 4,830.2           | 41                  | 2,043.6            |

SHBC would prefer channel 41 for WMAR-TV because of the use of channel 37 for radio astronomy.

#### **DETROIT MI:**

| Call<br>Sign | NTSC<br>CHANNEL | NTSC<br>ERP kW | HAAT<br>METERS | FCC DTV<br>CHANNEL | FCC DTV<br>ERP kW | MSTV DTV<br>CHANNEL | MSTV DTV<br>ERP kW |
|--------------|-----------------|----------------|----------------|--------------------|-------------------|---------------------|--------------------|
| WXYZ-TV      | 7               | 316            | 305            | 58                 | 2,221.1           | 67                  | 1,296.1            |

SHBC would prefer channel 58 for WXYZ-TV and has made that request through the Regional Coordinator and MSTV since channel 58 was listed as an option on the "Other Available Channel List", ATV Plan, Region 5, dated 10/09/96.

**KANSAS CITY MO:**

| Call<br>Sign | NTSC<br>CHANNEL | NTSC<br>ERP kW | HAAT<br>METERS | FCC DTV<br>CHANNEL | FCC DTV<br>ERP kW | MSTV DTV<br>CHANNEL | MSTV DTV<br>ERP kW |
|--------------|-----------------|----------------|----------------|--------------------|-------------------|---------------------|--------------------|
| KSHB-TV      | 41              | 1,320          | 323            | 42                 | 59.8              | 42                  | 29.4               |
| KCTV         | 5               | 100            | 344            | 46                 | 3,984.1           | 46                  | 1,989.5            |

Note: KSHB-TV requested a power increase to 4,000 kW prior to July 25, 1996.

Channel 42 is shown for use with KSHB-TV, channel 41 as an adjacent DTV channel. If the adjacent DTV channel placement does not work well, SHBC would want to request an alternate channel. SHBC also requests at least 300 kW DTV ERP for KSHB which will suffer from a power ratio (compared to KCTV) of 67 to 1 in both Tables. There is also a 41 to 1 power ratio between the present (NTSC) KSHB ERP and the BROADCASTERS' Table DTV ERP.

**TULSA OK:**

| Call<br>Sign | NTSC<br>CHANNEL | NTSC<br>ERP kW | HAAT<br>METERS | FCC DTV<br>CHANNEL | FCC DTV<br>ERP kW | MSTV DTV<br>CHANNEL | MSTV DTV<br>ERP kW |
|--------------|-----------------|----------------|----------------|--------------------|-------------------|---------------------|--------------------|
| KJRH-TV      | 2               | 100            | 558            | 50                 | 3,916.3           | 31                  | 1,643.9            |
| KOTV         | 6               | 100            | 573            | 49                 | 3,917.7           | 38                  | 1,921.6            |
| KWHB-TV      | 47              | 1,660          | 460            | 48                 | 90.5              | 48                  | 43.8               |
| KOED-TV      | 11              | 316            | 521            | 38                 | 1,601.1           | 50                  | 960.1              |

Note: All of the above stations are on the same tower.

SHBC would prefer channel 12 for KJRH-TV in-place-of MSTV DTV channel 31. That request was made through the Regional Coordinator and MSTV since channel 12 was listed as an option on the "Other Available Channel List", ATV Plan, Region 4. Channel 31 is the wrong DTV selection for Tulsa since there would be mutual interference with non-commercial KOET-TV, channel 32 (MSTV DTV Table) at Eufaula OK, an undesirable condition which exists now, between KJRH-TV, NTSC channel 2, and KOET-TV, NTSC channel 3. The choice of adjacent channels for Tulsa and Eufaula perpetuates the existing unacceptable situation. If the facilities were built as shown in the



FCC Table, there would be a 43 to 1, power ratio between channels 49, and 48. SHBC doubts if these are realistic power levels to best serve the public.

**CLEVELAND OH:**

| Call<br>Sign | NTSC<br>CHANNEL | NTSC<br>ERP kW | HAAT<br>METERS | FCC DTV<br>CHANNEL | FCC DTV<br>ERP kW | MSTV DTV<br>CHANNEL | MSTV DTV<br>ERP kW |
|--------------|-----------------|----------------|----------------|--------------------|-------------------|---------------------|--------------------|
| WEWS-TV      | 5               | 93.3           | 311            | 39                 | 4,112.9           | 6                   | 6.2                |

Channel 5 has been on-the-air under the same ownership since 1947. SHBC is concerned with the use of channel 6 in Cleveland for DTV since there are FM stations operating on 88.1 MHz and 88.3 MHz. These stations serve listeners within the NTSC city grade signal of channel 5. The Electronic Industries Association (EIA), in their Comments, agreed with the FCC against the use of channel 6 for DTV. (See also next paragraph.) While SHBC might prefer channel 6 for DTV during the transition, as listed in the MSTV Table, WEWS does not wish to operate DTV on channel 6 if interference to FM station reception is caused.

**USE OF CHANNELS TWO THROUGH SIX**

At least ten groups filed comments which support the continued use of channels 2 through 6, for DTV after transition. For example, the comments of The Department of Special Districts, San Bernardino County California stated, page 6:

*"The Commission's conclusion that the low-band channels are ones 'less suitable for broadcasting because of high levels of noise' (Sixth FN, paragraph 35) collides with 50 years of experience and suspends common sense."*

Relative to the future DTV use of channel 6 by those licensees presently using NTSC channel 6, DTV FM concerns may not exist, having already been addressed for NTSC. The use of DTV channel 6 depends on ERP and the DTV mask design. It is likely that

channels 2 through 6, will better serve the public with equivalent service than the presently proposed super-high powered UHF channels.

### **USE OF NTSC CHANNELS FOR DTV**

The Comments filed by du Treil, Lundin and Rackley (dTLR) suggest returning to the presently used NTSC channels after transition for DTV as a viable consideration:

*"It is this firm's opinion that if full accommodation and replication of existing NTSC service is the real goal for DTV, then all stations should return to their present NTSC channels for the final DTV operations. Returning to the current channel is the best means of insuring present coverage. It will involve less power, be more spectrum efficient, cause less interference, have less impact on LPTV service, and still permit the recapture of spectrum for other uses."*

SHBC supports the opinion of dTLR. In addition to the above comments, the assignment of interim DTV channels would be expedited, and the "after NTSC Table" could be immediately addressed. This would give broadcasters a DTV assignment foundation and open a time window which would give the FCC (or their designate) reasonable time to review requests for alternate DTV channels or different ERPs.

### **SPECTRUM FOR DTV**

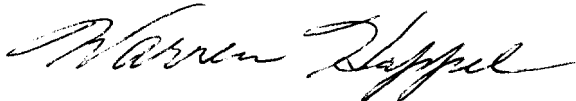
Many Comments stated that neither the present broadcast service nor DTV service be compromised for the sake of early spectrum recovery. SHBC supports that position. Once a final DTV table is achieved with optimum channel packing, only then should "block" spectrum be considered for other uses.

## SUMMARY

There is sufficient information to proceed with the DTV assignment Table without delay, followed closely thereafter with a proposed post DTV Table. There have been numerous comments filed, requesting that DTV eventually use the original NTSC channels, and SHBC supports that position. This would likely mean that DTVs operating above the core spectrum would need to move into a defined core. With these considerations and a proposed post DTV Table, there would be a reasonable time period to construct the final table with associated DTV powers.

SHBC urges the FCC to revisit the power assignments and adjust the high and low extremes to reasonable levels so that the public will have an acceptable transition from NTSC to DTV, as we add to our knowledge.

Warren Happel

A handwritten signature in cursive script, reading "Warren Happel".

Vice President Engineering  
Scripps Howard Broadcasting Company  
January 20, 1997